



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,766	02/06/2004	Mark Weselak	P1047US10	5577
29490 7590 01/10/2008 GENOMICS INSTITUTE OF THE NOVARTIS RESEARCH FOUNDATION 10675 JOHN JAY HOPKINS DRIVE, SUITE E225 SAN DIEGO, CA 92121-1127			EXAMINER HYUN, PAUL SANG HWA	
			ART UNIT 1797	PAPER NUMBER
			NOTIFICATION DATE 01/10/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPLegal@gnf.org
jclarke@gnf.org

Office Action Summary

Application No.

10/773,766

Applicant(s)

WESELAK ET AL.

Examiner

Paul S. Hyun

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-48 and 69-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-48 and 69-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

REMARKS

Claims 1-48 were previously pending. By this amendment, Applicants amended claims 1, 5 and 8, cancelled claim 7 and added new claims 69-71. In summary, claims 1-6, 8-48 and 69-71 are currently pending for examination on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **5 and 6** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are dependent on claim 89, which does not exist. Consequently, they will not be examined on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **1, 2, 8-10, 12-39, 41-44 and 46-48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. (US 6,467,285 B2) in view of Smith et al. (5,455,409).

Felder et al. disclose an automated, cryogenic storage module. The system is adapted to store and retrieve containers such as microplates stored in racks 23 comprising slots and rails 38 (see Abstract and Fig. 10A). The storage module comprises more than 50 rows and 6 columns of slots (see Fig. 2A). Each container is assigned a bar code that is read by a bar code reader 65. The operator communicates with the module via an interface 82 located at a work area to control a robotic transfer mechanism that is adapted to store and retrieve the containers. The interface 82 utilizes a computer system 1300 (see Fig. 13) that comprises main memory 1308, a RAM and secondary memory 1310 for storing data (see lines 25-35, col. 11). When retrieving a container, the operator utilizes the interface to input the container identification, at which point a central processor 81 indicates the location of the container of interest to a control system 80 from a database that stores all the relevant information regarding the container, and mechanically retrieves the container (see lines 12-57, col. 8). The container retrieved by the robotic transfer mechanism can be accessed via exterior door 62 and interior door 61. The system is capable of storing containers at a temperature of -50 degrees Celsius (see lines 54-57, col. 2). The system disclosed by Felder et al. differs from the claimed invention in that Felder et al. do not disclose the claimed tray location indicators.

Smith et al. disclose an automated apparatus for storing and retrieving articles. The apparatus stores the articles in a storage carrier comprising coded slots. Each slot can comprise an indicator (e.g. LED) for indicating the location of an article of interest (see lines 1-12, col. 9). In light of the disclosure of Smith et al., it would have been

obvious to one of ordinary skill in the art to provide each rack of the Felder et al. module with an indicator so that the exact location of the container to be stored or retrieved can be visually identified by the user.

With respect to claim 19, it would have been obvious to one of ordinary skill in the art to provide a plurality of identical bar codes to two or more sides of each rack, wherein the bar code assigned to each rack corresponds to the bar code assigned to the container stored in the rack to ease the identification of the containers stored in the racks.

With regards to claims 24-34, it should be noted that limitations directed towards the containers/trays do not further limit the claims because the containers/trays are not part of the claimed system according to the language of the claims. The claims merely recite that the slots of the claimed system are capable of receiving the containers/trays.

With regards to claim 43, although Felder et al. do not explicitly disclose that the database comprises the data recited in the claim, it would have been obvious to one of ordinary skill in the art to input all pertinent information regarding the contents of the container in the bar codes. Information like container creation date, identity of the contents of the container, the volume of the contents of the container, container history, container activity date are information that would have been obvious to one of ordinary skill in the art to store in the bar codes.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. in view of Smith et al. as applied to claims 1, 2, 8-10, 12-39, 41-44 and 46-48, and

further in view of Klee (US 4,800,728).

Neither Felder et al. nor Smith et al. disclose specific relative humidity and the temperature of the work area.

Klee discloses that frost forms whenever ambient air exceeding relative humidity of 50% at room temperature mixes with cryogenic air (see lines 59-64, col. 2).

In light of the disclosure of Klee, it would have been obvious to one of ordinary skill in the art to maintain the temperature of the work area between 1-8 degrees Celsius and the relative humidity below 40% in order to prevent the formation of frost whenever the exterior door of the modified Felder et al. storage module is opened.

Claims **4, 70 and 71** are rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. in view of Smith et al. as applied to claims 1, 2, 8-10, 12-39, 41-44 and 46-48, and further in view of Klee and Vago (US 5,921,102).

Neither Felder et al. nor Smith et al. disclose an antechamber.

Vago discloses a plurality of enclosures, including an antechamber 26 and a work area 24, for housing a plurality of cryogenic storage modules 20a (see Fig. 1). The enclosures enable the modules to be stored in a climate-controlled environment.

Klee discloses that frost forms whenever ambient air exceeding relative humidity of 50% at room temperature mixes with cryogenic air (see lines 59-64, col. 2).

In light of the disclosure of Klee and Vago, it would have been obvious to one of ordinary skill in the art to provide the modified Felder et al. module with gradating climate-controlled enclosures (i.e. 1-8 degrees Celsius for the work area, 4-20 degrees

Celsius for the antechamber) to minimize the frost formation caused by air of different temperatures and humidity mixing.

Claim **11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. in view of Smith et al. as applied to claims 1, 2, 8-10, 12-39, 41-44 and 46-48, and further in view of Rivoire (US 4,314,459).

Neither Felder et al. nor Smith et al. disclose a means for precisely controlling the temperature of the system within 2 degrees Celsius of the desired temperature setting.

Rivoire discloses a cryogenic device comprising temperature sensor 17 in communication with control circuit 18 that regulates a valve 15 for controlling the temperature. The reference discloses that the device is capable of maintaining a precision of 0.1 degree Celsius between the temperature of 0 and -180 degrees Celsius (see line 10, col. 5- line 40, col. 6).

In light of the teachings of Rivoire, it would have been obvious to one of ordinary skill in the art to provide the modified Felder et al. system with a means for monitoring and regulating the temperature of the storage unit within 0.1 degree Celsius in order to store the contents of the containers at the optimal temperature.

Claims **40 and 45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. in view of Smith et al. as applied to claims 1, 2, 8-10, 12-39, 41-44 and 46-48, and further in view of de Langavant et al. (US 5,660,046).

Neither Felder et al. nor Smith et al. disclose that the desired temperature of the

storage module can be input via the computer and viewed by a display.

de Langavant et al. disclose a cryogenic temperature control system wherein the desired temperature of the system can be input via a keyboard (see claim 14), and the condition of the system can be viewed via a display (see lines 45-50, col. 9). In light of the teachings of de Langavant et al., it would have been obvious to one of ordinary skill in the art to enable the modified Felder et al. system to input and view the desired temperature of the cryogenic system so that the temperature of the system can be adjusted conveniently.

Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al. in view of Smith et al. as applied to claims 1, 2, 8-10, 12-39, 41-44 and 46-48, and further in view of Beavers et al. (US 5,842,179).

Neither Felder et al. nor Smith et al. disclose a lockable door that is controlled by a computer system.

Beavers et al. disclose a cryogenic storage module comprising an electronic lock (see lines 45-55, col. 9). A personal identification number must be entered before accessing the storage module. The lock/security system is intended to prevent unauthorized access to the sample stored in the storage module. In light of the disclosure of Beavers et al., it would have been obvious to one of ordinary skill in the art to provide an electronic lock to the exterior door 62 of the modified Felder et al. module to prevent unauthorized access to the samples stored in the storage module.

Response to Arguments

Applicant's arguments with respect to the art rejections have been considered but are moot in view of the new grounds of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul S. Hyun whose telephone number is (571)-272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/773,766
Art Unit: 1797

Page 9

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PSH
1/4/08


Jill Warden
Supervisory Patent Examiner
Technology Center 1700